Claim Amendments

Please amend claims 1 and 33 as follows:

1. (currently amended) A receive front-end module for use in a multi-band, multi-mode communication device, the communication device having a plurality of electrically separated antennas, said receive front-end module comprising:

at least two feed points adapted to connect separately to at least two of said plurality of antennas for receiving communication signals in the communication device;

a plurality of signal paths, operatively connected to the feed points for simultaneously receiving communication signals in a plurality of frequency bands, wherein each signal path has a filter for filtering the communication signals in the corresponding frequency band; and

at least one isolation component, disposed in the signal paths, for providing cross-band isolation between at least two of the signal paths, wherein at least two of said plurality of signals paths are adapted to simultaneously receive communication signals in a plurality of frequency bands from one of the ~~antenna~~ antennas through one of the two feed points, and at least a different one of the said plurality of signal paths is adapted to receive communication signals from another one of the antennas through the other of the two feed points in a further frequency band different from the said plurality of frequency bands.

2.(original) The receive front-end module of claim 1, wherein said isolation component comprising at least one signal amplifier.

3. (original) The receive front-end module of claim 1, wherein said at least two antennas comprise a first antenna and a second antenna, and said at least two feed points comprises a first feed point operatively connected to the first antenna, and a second feed point operatively connected to the second antenna, and wherein said plurality of signal paths comprises:

a first signal path having a first filter for filtering the communication signals in the first frequency band, the first signal path operatively connected to the first feed point;

a second signal path having a second filter for filtering the communication signals in the second frequency band, the second signal path operatively connected to the second feed point;

a third signal path having a third filter for filtering the communication signals in the third frequency band, the third signal path operatively connected to the second feed point, wherein the third frequency band is different from the second frequency band; and

at least one matching circuit for matching the second and third filters.

4. (original) The receive front-end module of claim 3, further comprising:

a first balun disposed in the first signal path between the first filter and the first feed point;

a second balun disposed in the second signal path between the second filter and the second feed point; and

a third balun disposed in the third signal path between the third filter and the second feed point.

5. (original) The receive front-end module of claim 4, wherein said isolation component comprises:

a first signal amplifier disposed in the first signal path, operatively connected to the first filter;

a second signal amplifier disposed in the second signal path, operatively connected to the second filter; and

a third signal amplifier disposed in the third signal path, operatively connected to the third filter.

6. (original) The receive front-end module of claim 3, wherein

the first frequency band substantially covers a frequency range of 1805 - 1880 MHz,

the second frequency band substantially covers a frequency range of 1930 - 1930 MHz, and

the third frequency band substantially covers a frequency range between 2110 MHz and 2170 MHz.

7. (original) The receive front-end module of claim 6, wherein

the communication signal received in the first signal path is transmitted in a GSM mode;

the communication signal received in the second signal path is transmitted either in a GSM mode or a W-CDMA mode; and

the communication signal received in the third signal path is transmitted in a CDMA mode.

8. (original) The receive front-end module of claim 3, wherein the first frequency band is substantially the same as the second frequency band.

9. (original) The receive front-end module of claim 8, wherein

the third frequency band substantially covers a frequency range between 1805 MHz and 1880 MHz ; and

the first and second frequency bands substantially cover a frequency range between 2110 MHz and 2170 MHz.

10. (original) The receive front-end module of claim 9, wherein

the communication signal received in the third signal path is transmitted in a GSM mode; and

the communication signals received in the first and the second signal paths are transmitted in a W-CDMA mode.

11. (original) The receive front-end module of claim 8, further comprising:

a first balun disposed in the first signal path between the first filter and the first feed point;

a second balun disposed in the second signal path between the second filter and the second feed point; and

a third balun disposed in the third signal path between the third filter and the second feed point.

12. (original) The receive front-end module of claim 8, wherein said isolation component comprises:

a first signal amplifier disposed in the first signal path, operatively connected to the first filter;

a second signal amplifier disposed in the second signal path, operatively connected to the second filter; and

a third signal amplifier disposed in the third signal path, operatively connected to the third filter.

13. (original) The receive front-end module of claim 1, wherein said at least two antennas comprise a first antenna and a second antenna, and said at least two feed points comprise a first feed point operatively connected to the first antenna, and a second feed point operatively connected to the second antenna, and wherein said plurality of signal paths comprises:

a first signal path having a first filter for filtering the communication signals in the first frequency band, the first signal path operatively connected to the first feed point, and

a second signal path having a second filter for filtering the communication signals in the second frequency band, the second signal path operatively connected to the second feed point, and wherein said plurality of antennas further comprising a third antenna electrically separated from the first and second antenna, said module further comprising:

a third feed point, operatively connected to the third antenna for receiving communication signals in the communication device;

a third signal path, operatively connected to the third feed points for receiving communication signals in a third frequency bands; and

further means, disposed in the third signal path, for providing cross-band isolation between the third signal path and at least one of said at least two signal paths.

14. (original) The receive front-end module of claim 13, wherein the communication signal received in the first and second signal paths is transmitted in a frequency band substantially between 2110 MHz and 2170 MHz.

15. (original) The receive front-end module of claim 14, wherein the communication signal received in the third signal path is transmitted in a frequency band substantially between 1930 MHz and 1990 MHz.

16. (original) The receive front-end module of claim 13, further comprising:

a first balun disposed in the first signal path between the first filter and the first feed point;

a second balun disposed in the second signal path between the second filter and the second feed point; and

a third balun disposed in the third signal path between the third filter and the second feed point.

17. (original) The receive front-end module of claim 16, wherein said isolation component comprises:

a first signal amplifier disposed in the first signal path, operatively connected to the first filter; and

a second signal amplifier disposed in the second signal path, operatively connected to the second filter, and wherein said further isolation means comprises

a third signal amplifier disposed in the third signal path, operatively connected to the third filter.

18. (original) The receive front-end module of claim 15, further comprising

a fourth signal path operatively connected to a different one of said plurality of antennas for receiving communication signals in a frequency band substantially between 1930 MHz and 1990 MHz.

19. (original) The receive front-end module of claim 18, wherein the received communication signals in first and second signal paths are transmitted in one of the following modes: W-CDMA (EU) and W-CDMA (US2).

20. (original) The receive front-end module of claim 19, wherein the received communication signals in the third and fourth signal paths are transmitted in one of the following modes: W-CDMA (US1) and 1900GSM.

21. (original) The receive front-end module of claim 19, wherein the received communication signals in the third signal path are transmitted in W-CDMA (US1) mode, and the received communication signals in the fourth signal path are transmitted in one of the following modes: W-CDMA (US1) and 1900GSM.

22. (original) The receive front-end module of claim 16, wherein the baluns are integrated in a sub-module.

23. (original) The receive front-end module of claim 17, wherein the signal amplifiers are integrated in a sub-module.

24. (original) The receive front-end module of claim 18, comprising:

a first sub-module for disposing the first, second and third feed points and the first, second and third signal paths; and

a second sub-module for disposing the fourth signal path.

25. (original) The receive front-end module of claim 17, further comprising:

a further antenna having a further feed point;

a fourth signal path, operatively connected to the further feed point, for receiving a communication signal in a fourth frequency band;

a fifth signal path, operatively connected to the further feed point, for receiving a communication signal in a fifth frequency band different from the fourth frequency band, wherein each of the fourth and fifth signal paths has

an input end and an output end, the input end operatively connected to the further feed point,

a balun disposed at the input end,

a signal amplifier disposed at the output end, and

a filter disposed between the signal amplifier and the balun; and

means, operatively connected to the further feed point, for matching the filters in the fourth and fifth signal paths.

26. (original) The receive front-end module of claim 25, wherein

the communication signals received in the first and second signal paths are transmitted in a frequency band substantially between 2110 MHz and 2170 MHz in a W-CDMA mode, and

the communication signals received in the third and fourth signal paths are transmitted in a frequency band substantially between 1930 MHz and 1990 MHz in either a W-CDMA mode or a GSM mode.

27. (original) The receive front-end module of claim 26, wherein the communication signals received in the fifth signal path are transmitted in the fifth frequency band substantially between 1805 MHz and 1880 MHz.

28. (original) The receive front-end of claim 25, comprising:

a first sub-module for disposing the first, second and third signal paths and the first, second and third feed points, and

a second sub-module for disposing the fourth and fifth signal paths and the further feed point.

29. (original) The receive front-end module of claim 25, further comprising

a sixth signal path, operatively connected to the further feed point, for receiving a communication signal in a sixth frequency band different from the fourth and the fifth frequency band, the sixth signal path having

an input end and an output end, the input end operatively connected to the further feed point,

a balun disposed at the input end,

a signal amplifier disposed at the output end, and

a filter disposed between the signal amplifier and the balun for filtering the communication signal in the sixth frequency band, wherein

the matching circuit is also used for matching the filter in the sixth signal path.

30. (original) The receive front-end module of claim 29, wherein

the communication signals received in the first, second and sixth signal paths are transmitted in a frequency band substantially between 2110 MHz and 2170 MHz in a W-CDMA mode,

the communication signals received in the third and fourth signal paths are transmitted in a frequency band substantially between 1930 MHz and 1990 MHz in either a W-CDMA mode or a GSM mode, and

the communication signals received in the fifth signal path are transmitted in the fifth frequency band substantially between 1805 MHz and 1880 MHz.

31. (original) The receive front-end module of claim 13, wherein said at least two antennas comprise a first antenna and a second antenna, and said at least two feed points comprises:

a first feed point, operatively connecting a first signal path to the first antenna, for receiving communication signals in a first frequency band, and

a second feed point, operatively connecting a second signal path to the second antenna, for receiving communication signals in the second frequency band, and said plurality of antenna further comprising a fourth antenna, a fifth antenna, and a sixth antenna, and the receive front-end module further comprises:

a fourth feed point, operatively connecting a fourth signal path to the fourth antenna, for receiving communication signals in the fourth frequency band;

a fifth feed point, operatively connecting a fifth signal path to the fifth antenna, for receiving communication signals in the fifth frequency band; and

a sixth feed point, operatively connecting a sixth signal path to the sixth antenna, for receiving communication signals in the sixth frequency band, and wherein the receive front-end module comprises a first sub-module for disposing the first, second and third signal paths, and a second sub-module for disposing the fourth, fifth and sixth signal paths, and the communication signals in at least two of the six signal paths are transmitted in the same frequency band and transmission mode.

32. (original) The receive front-end of claim 31, wherein said at least two of the six signal paths comprise:

the first and fourth signal paths in which the received communication signals are transmitted substantially in a frequency range between 2110 MHz and 2170 MHz;

the second and third signal paths in which the received communication signals are transmitted substantially in a frequency range between 1930 MHz and 1990 MHz; and

the fifth and sixth signal paths in which the received communication signals are transmitted substantially in a frequency range between 1805 and 1880 MHz.

33. (currently amended) A method of enhancing reception of communication signals in a multi-band, multi-mode communication device, the communication device having a plurality of electrically separated antennas, and a plurality of signal paths for receiving communication signals in a plurality of frequency bands, said method comprising the steps of:

providing at least a first feed point and a second feed point, the first and second feed points adapted to connect separately to at least two of said plurality of antennas;

operatively connecting at least two of said plurality of signal paths to the first feed point for receiving communication signals through the first feed point, and at least a different one of said plurality of signal paths to the second feed point for receiving communication signals through the second feed point, each of the signal paths connected to the first and second feed points has a filter for filtering the communication signals in the corresponding frequency band; and

providing ~~means, in at least some of the signal paths, for providing~~ cross-band isolation between at least two of said plurality of signal paths, wherein

the communication signals received in at least one of the signal paths connected to the first feed point and the communication signals received in at least one of the signal paths connected to the second feed point are transmitted in the same frequency band and transmission mode, and wherein

the two signal paths connected to the first feed points are adapted to receive communication signals in different frequency bands.

34. (previously presented) A multi-band, multi-mode communication device, comprising:

a plurality of electrically separated RF antennas, including a first antenna and a second antenna, and

a front-end module comprising:

at least a first feed point and a second feed point separately connected to the first and second antennas, and

a plurality of signal paths operatively connected to the first and second feed points for receiving communication signals in a plurality of frequency bands, each signal path having a filter for filtering the communication signals in the corresponding frequency band, wherein

the communication signals received in at least one of the signal paths connected to the first feed point and the communication signals received in at least one of the signal paths connected to the second feed point are transmitted in the same frequency band and transmission mode, and the communication signals received in another different one of the signal paths connected to the first feed point are transmitted in a different frequency band.

35. (original) The portable communication device of claim 34, comprising a mobile terminal.

36. (original) The portable communication device of claim 34, comprising a communicator device.